

Virtual IEEE-NEMS 2020 Program Overview

September 27-30, 2020

NOTE: NEMS Virtual Sessions are all in EST (UTC-04:00)

September 27 [Sunday]			
Time (EST)	RM 001		
08:30-08:50	Opening Ceremony		
08:50-09:35	Plenary Lecture 1: Joseph WANG, Univ. of California at San Diego, USA (Chair: Jin-Woo KIM) <i>"Wearable Electrochemical Sensors: Toward Chemical Lab on the Body"</i>		
09:35-10:20	Plenary Lecture 2: Chang-Jin "CJ" KIM, Univ. of California at Los Angeles, USA (Chair: Da-Jeng YAO) <i>"Democratizing EWOD Digital Microfluidics by Cybermanufacturing"</i>		
10:20-10:30	Break		
10:30-11:05	Keynote Lecture 1: Mark HERSAM, Northwestern Univ., USA (Chair: Jin-Woo KIM) <i>"Mixed-dimensional Heterostructures for Electronic and Energy Applications"</i>		
11:05-11:40	Keynote Lecture 2: Inkyu PARK, Korea Advanced Inst. of Science & Technology, Korea (Chair: Wen J. LI) <i>"Compact, Low-power/Self-powered Gas Sensors Enabled by MEMS Platform & Functional Nanostructures"</i>		
11:40-12:10	Lunch/Break & Poster Session 1 Paper ID: 23, 44, 70, 1004, 1028, 1079, 1080, 1115, 1116		
12:10-13:50	RM 001	RM 002	RM 003
	Invited Session 1	Invited Session 2	Invited Session 3
	Wearable Multifunctional Micro/Nanosystems Chair: Wei GAO	Microbiosensors Chair: Gwo-Bin LEE	Nanomaterials & Nano-Micro-Devices for Biosensing + Paper ID: 4, 84 Chair: Jun LI
13:50-14:00	Break		
14:00-15:30	RM 001	RM 002	RM 003
	Technical Session 1	Technical Session 2	Technical Session 3
	MEMS/NEMS I Chair: Mahmoud ALMASRI Paper ID: 38, 39, 90, 96, 993, 1025, 1120	Sensors & Actuators I Chair: Aaeemuddin SYED Paper ID: 31, 1014, 1045, 1052, 1096, 1110	Sensors & Actuators II Chair: Aaron OHTA Paper ID: 12, 27, 32, 63, 83, 88, 1048

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September 28 [Monday]				
Time (EST)	RM 001			
08:30-09:15	Plenary Lecture 3: Kit PARKER, Harvard Univ., USA (Chair: Jin-Woo KIM)			
	<i>"Designing a Shape-Memory Material Using Keratin Extracted from Animal Hair for Smart Textiles"</i>			
09:15-10:00	Plenary Lecture 4: Thomas J. WEBSTER, Northeastern Univ., USA (Chair: John YEOW)			
	<i>"Goodbye Hospitals and Hello Implantable Nano Sensors"</i>			
10:00-10:10	<i>Break</i>			
10:10-10:45	Keynote Lecture 3: Ryuji YOKOKAWA, Kyoto Univ., Japan (Chair: Gwo-Bin LEE)			
	<i>"On-chip Vasculature for Three-dimensional Tissue Culture and Microphysiological Systems"</i>			
10:45-11:20	Keynote Lecture 4: Kremena MAKASHEVA, LAPLACE, Université de Toulouse, France (Chair: Gwo-Bin LEE)			
	<i>"AgNPs Embedded in Silica Matrix: A Way to Impair the Microbial Adhesion on Dielectric Surfaces"</i>			
11:20-11:30	<i>Break</i>			
11:30-13:10	RM 001	RM 002	RM 003	RM 004
	Invited Session 4	Invited Session 5	Invited Session 6	ISC Meeting
	Active Biomaterials for Diagnosis & Therapies Chairs: Hyunjoon KONG Sung Gap LIM	Impedance Based Biosensors Chair: Mahmoud ALMASRI	Emerging Materials & Flexible Electronics Chair: Yunlong ZI	
13:10-13:40	<i>Lunch/Break & Poster Session 2</i>			
	Paper ID: 33, 45, 56, 1000, 1041, 1068, 1090, 1100, 1126			
13:40-15:10	RM 001	RM 002	RM 003	RM 004
	Technical Session 4	Technical Session 5	Technical Session 6	Technical Session 7
	MEMS/NEMS II Chair: Mahmoud ALMASRI Paper ID: 79, 1084, 1086, 1092, 1095, 1102, 1125	Micro/Nano Fabrication Chair: Sheng XU Paper ID: 16, 52, 92, 1035, 1029, 1118	Micro/Nano Fluidics I Chair: Aaron OHTA Paper ID: 21, 22, 46, 97, 98, 996	Sensing Materials & Energy Devices I Chair: Jun LI Paper ID: 14, 17, 55, 1006, 1010, 1032, 1049
15:10-15:40	Poster Session 3			
	Paper ID: 40, 1009, 1034, 1036, 1044, 1046, 1099, 1123, 1124			

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September 29 [Tuesday]			
Time (EST)	RM 001		
08:30-09:15	Plenary Lecture 5: Ajay K. SOOD, Indian Institute of Science, Bangalore, India (Chair: John YEOW)		
	<i>"Terahertz Ultrafast Photoconductivity of 2D Materials"</i>		
09:15-09:50	Keynote Lecture 5: Xin ZHANG, Boston Univ., USA (Chair: John YEOW)		
	<i>"Metamaterial Devices: Integrating Microsystems with Metamaterials"</i>		
09:50-10:00	Break		
10:00-10:35	Keynote Lecture 6: Bing-Joe HWANG, Nat'l Taiwan Univ. of Science & Technology, Taiwan (Chair: Da-Jeng YAO)		
	<i>"Nanocatalysts for Electrochemical Energy Conversion Reactions"</i>		
10:35-11:10	Keynote Lecture 7: Qing CAO, Univ. of Illinois at Urbana-Champaign, USA (Chair: Jin-Woo KIM)		
	<i>"Replacing Silicon with Carbon Nanotubes in Logic Transistors"</i>		
11:10-11:20	Break		
11:20-13:00	RM 001	RM 002	RM 003
	Invited Session 7	Invited Session 8	Invited Session 9
	Advances in 2D Materials & Their Applications Chair: Dong LIN	Micro/Nano Engineering for Advanced Bio/Medical Systems Chair: Yoshikazu HIRAI	Micro-Nano Engineering & Smart Electronics Chair: Xiaosheng ZHANG
13:00-13:30	Lunch/Break & Poster Session 4		
	Paper ID: 94, 1011, 1018, 1020, 1042, 1103, 1108, 1111		
13:30-15:00	RM 001	RM 002	RM 003
	Technical Session 8	Technical Session 9	Technical Session 10
	Nanobiology/Nanomedicine I Chair: Nalinikanth KOTAGIRI Paper ID: 19, 47, 50, 66, 77, 1091	Nanobiology/Nanomedicine II Chair: Joshua SAKON Paper ID: 7, 9, 57, 73, 997, 1093, 1114	Micro/Nano Fluidics II Chair: Aaron OHTA Paper ID: 36, 1008, 1033, 1037, 1039, 1119

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September 30 [Wednesday]			
Time (EST)	RM 001		
08:30-09:15	Plenary Lecture 6: Oleg GANG, Columbia Univ., USA (Chair: Jin-Woo KIM)		
	<i>"Programmable Assembly of 3D Nanomaterials"</i>		
09:15-09:50	Keynote Lecture 8: Do-Nyun KIM, Seoul Nat'l Univ., Korea (Chair: John YEOW)		
	<i>"Mechanical Design Strategies for DNA Origami Nanostructures"</i>		
09:50-10:25	Keynote Lecture 9: Dan NICOLAU, McGill Univ., Canada (Chair: Jin-Woo KIM)		
	<i>"Biocomputation with Nano/Micro Biological Agents Exploring Physical Networks"</i>		
10:25-11:25	Closing Remarks/Awards/Announcement IEEE-NEMS 2021		
11:25-11:35	<i>Break</i>		
11:35-13:15	RM 001	RM 002	RM 003
	Invited Session 10	Invited Session 11	Invited Session 12
	Single-Cell Analysis Chair: Tuhin SANTRA	Smart Sensors for Healthcare Applications Chair: Zong-Hong LIN	Energy Harvesting & Smart Systems + Paper ID 1051 Chair: Yunlong ZI
13:15-13:25	<i>Break</i>		
13:25-15:20	RM 001	RM 002	RM 003
	Technical Session 11	Technical Session 12	Technical Session 13
	Sensing Materials & Energy Devices II Chair: Sheng XU Paper ID: 10, 59, 992, 1007, 1012, 1097	Nanomaterials/Nanomechanics I Chair: Nalinikanth KOTAGIRI Paper ID: 8, 51, 60, 995, 1017, 1112, 1031	Nanomaterials/Nanomechanics II Chair: Aaron OHTA Paper ID: 15, 25, 54, 61, 62, 76, 1121